CONTRIBUTORS

Michael Orzano, CFA
Head of Equity Indices
michael.orzano@spglobal.com

John Welling
Associate Director
Equity Indices
john.welling@spglobal.com

How Indexing Affects Shariah-Compliant Investing

Shariah-compliant investing has grown considerably in recent decades, as the Islamic investment community has demanded increasingly sophisticated investment solutions that adhere to the tenets of Islamic law. As a result, the need for high-quality, transparent, Shariah-compliant benchmarks has developed. Today, Islamic indices serve a critical role in Islamic finance; these unique indices identify the universe of securities available for investment and define the way Islamic investors measure the markets.

INTRODUCING ISLAMIC INDICES

Islamic indices are subsets of conventional benchmarks that only include companies that pass rules-based screens for Shariah compliance. The resulting Shariah indices tend to be highly correlated to their conventional counterparts and provide Islamic investors with Shariah-compliant versions of a wide variety of popular benchmarks. For example, the S&P 500® Shariah is a subset of the widely recognized S&P 500, and it includes only Shariah-compliant constituents of the S&P 500.

As with all Islamic financial products, a supervisory board of Islamic scholars oversees the rules governing Shariah-compliant indices. The board is responsible for defining and maintaining the rules governing the Shariah screening process. However, S&P Dow Jones Indices retains oversight on all other index methodology issues, including rules for company selection in the benchmark index, weighting, and index maintenance.

THE INS AND OUTS OF THE SHARIAH SCREENING PROCESS

Shariah screening is performed at two primary levels: business activity and financial ratios. First, the business activities of each company are evaluated. Companies with significant involvement in certain business activities prohibited by Shariah law are deemed noncompliant. Activities that are generally considered noncompliant include conventional financial services, alcohol, tobacco, gaming, pork, pornography, and most conventional media organizations. After removing companies with noncompliant business activities, the remaining companies are examined for compliance with board-approved financial ratios. Three areas of focus are degree of leverage, cash holdings, and the percentage of revenue derived from noncompliant activities.

Exhibit 1 provides a comparison of the screening methodologies employed by the S&P Shariah Indices and Dow Jones Islamic Market™ Indices. While the criteria evaluated are largely similar, there are some differences, as Shariah scholars have not reached a complete consensus on all aspects of Islamic finance. For example, the Dow Jones Islamic Market Indices exclude defense companies, while these firms are allowed in the S&P Shariah Indices. The calculations of accounting ratios also differ to some extent across the two index series.

Exhibit 1: Comparing S&P Shariah Indices' and Dow Jones Islamic Market Indices' Screening Methodologies

<table>
<tr><th></th><th colspan="2">Criteria</th><th></th></tr>
<tr><th></th><th>S&P</th><th>DJ</th><th></th></tr>
<tr><th>Sector Exclusions</th><th colspan="2"></th><th></th></tr>
<tr><td>Adult Entertainment
Alcohol
Gambling
Movies
Music
Non-Islamic Banking
Non-Islamic Finance
Non-Islamic Insurance
Pork-Related Products
Television
Tobacco</td><td colspan="2">X</td><td>Common sector Exclusions</td></tr>
<tr><td>Hedging of Gold and Silver</td><td>X</td><td></td><td rowspan="5">Additional Sector Exclusions</td></tr>
<tr><td>Cloning</td><td>X</td><td></td></tr>
<tr><td>Weapons/Arms/Defense Goods Manufacturing</td><td></td><td>X</td></tr>
<tr><td>Hotels</td><td></td><td>X</td></tr>
<tr><td>Food Production Packaging and Processing</td><td></td><td>X</td></tr>
<tr><td>Non-Permissible Income Threshold (Less Than)</td><td>5%</td><td>5%</td><td></td></tr>
<tr><th>Accounting Ratio Thresholds</th><th colspan="2">Less Than</th><th></th></tr>
<tr><td>Total Debt</td><td>33%</td><td>33%</td><td></td></tr>
<tr><td>Total Cash + Short-Term Investments</td><td>33%</td><td>33%</td><td></td></tr>
<tr><td>Total Receivables</td><td>49%</td><td>33%</td><td></td></tr>
<tr><td>Denominator</td><td>3-Year Avg. Mcap</td><td>2-Year Avg. Mcap</td><td></td></tr>
<tr><th>Dividend Purification</th><th colspan="2"></th><th></th></tr>
<tr><td>Formula</td><td colspan="2">(Non-Permissible Income Including Interest Income)/Total Income</td><td></td></tr>
</table>

Source: S&P Dow Jones Indices LLC. Chart is provided for illustrative purposes.

Shariah indices tend to be highly correlated to their conventional counterparts and provide Islamic investors with Shariah-compliant versions of a wide variety of popular benchmarks.

MAINTAINING THE INDEX

The rebalancing frequency is another important factor to consider when evaluating Islamic indices, and it is an area that also serves as a distinguishing feature between S&P Dow Jones Indices' two index series. The S&P Shariah Indices are reviewed on a monthly basis, and companies that fail the review are removed each month. On the other hand, the Dow Jones Islamic Market Indices are reviewed quarterly. More frequent rebalancing presents the advantage of ensuring that noncompliant companies are removed and newly compliant companies are added as quickly as possible. However, this approach may result in higher turnover.

PUTTING ISLAMIC INDICES TO USE

As discussed earlier, the need for Islamic indices developed with the growing demand for Shariah-compliant investment solutions. Today, Shariah-compliant indices are widely used by Islamic and conventional banks, asset managers, and other financial institutions. The indices are used for several purposes, including serving as:

- Performance benchmarks for Shariah-compliant portfolios;
- The basis for index-linked investment products such as exchange-traded funds, mutual funds, and structured products; and
- Selection pools for actively managed portfolios.

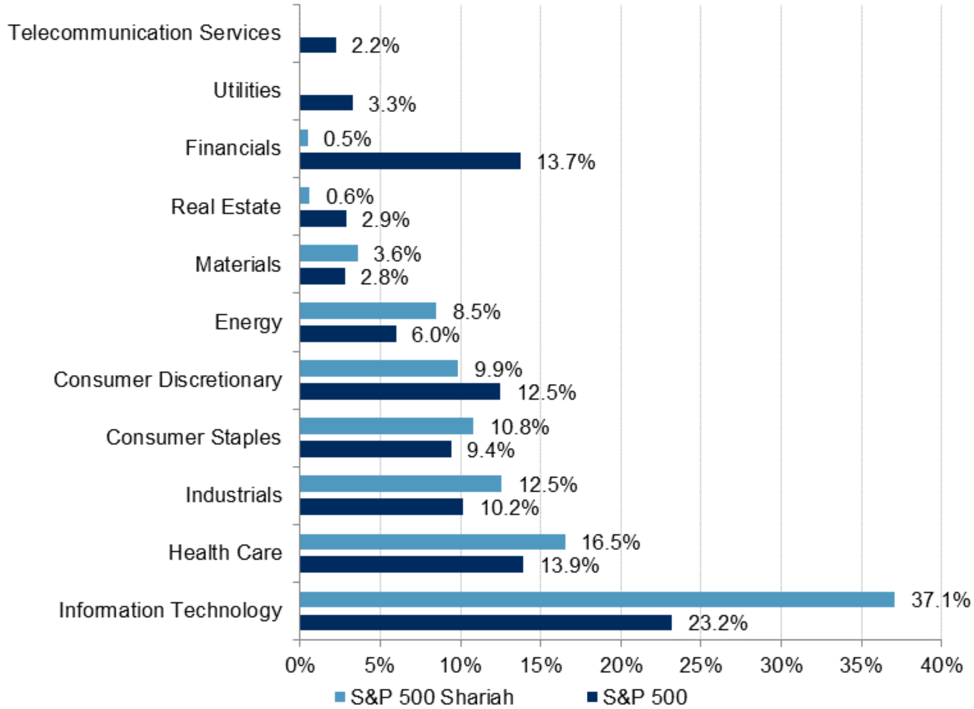
KEY INVESTMENT CHARACTERISTICS OF ISLAMIC INDICES

1. Sector Composition and Market Coverage

Islamic indices tend to have similar long-term performance characteristics and are typically highly correlated to conventional indices.

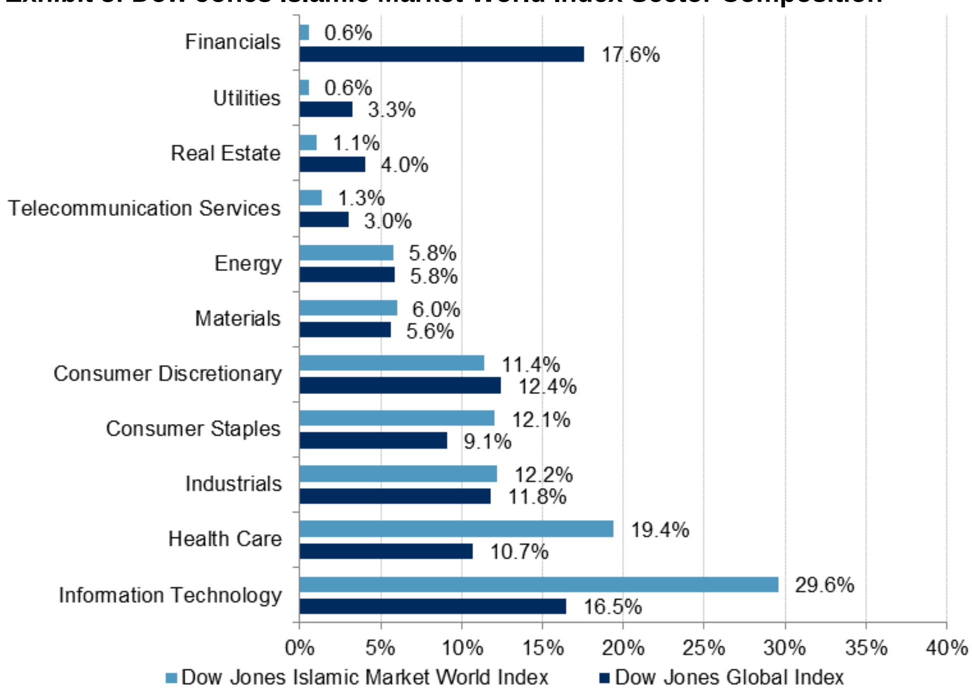
Despite having significant deviations in certain sector weights, Islamic indices tend to have similar long-term performance characteristics and are typically highly correlated to conventional indices. Exhibits 2 and 3 depict sector weights for the S&P 500 Shariah compared with the S&P 500, as well as the Dow Jones Islamic Market World Index and the Dow Jones Global Index. Because nearly all firms involved in conventional financial services are not Shariah compliant, the primary area of sector deviation is the extremely limited representation of the financials sector in Islamic indices. To a lesser extent, consumer-related sectors tend to be underrepresented as well, due to the exclusion of media and gaming firms, along with companies involved in the production or sale of alcohol, tobacco, and pork products. Finally, utilities and telecommunication services tend to have limited representation since these firms typically have relatively high leverage ratios. However, these sectors have relatively small weights in major U.S. and global equity benchmarks.

Exhibit 2: S&P 500 Shariah Sector Composition



Source: S&P Dow Jones Indices LLC. Data as of May 31, 2017. Chart is provided for illustrative purposes.

Exhibit 3: Dow Jones Islamic Market World Index Sector Composition



Source: S&P Dow Jones Indices LLC. Data as of May 31, 2017. Chart is provided for illustrative purposes.

After the removal of noncompliant companies, Islamic indices typically represent about one-half of the total float-adjusted market capitalization of their conventional benchmark indices.

After the removal of noncompliant companies, Islamic indices typically represent about one-half of the total float-adjusted market capitalization of their conventional benchmark indices. Exhibit 4 illustrates the coverage of the S&P 500 Shariah and Dow Jones Islamic Market World Index by sector. As expected, the coverage by sector varies considerably, with the highest representation typically found in information technology, health care, and energy, with the lowest in financials, utilities, and telecommunication services.

Exhibit 4: Sector Coverage of Shariah-Compliant Indices (By Float-Adjusted Market Cap)

SECTOR	S&P 500 SHARIAH (%)	DOW JONES ISLAMIC MARKET WORLD INDEX (%)
Consumer Discretionary	42.6	39.7
Consumer Staples	61.6	57.2
Energy	76.3	42.9
Financials	2.0	1.4
Healthcare	63.9	78.5
Industrials	66.5	44.6
Information Technology	86.0	77.7
Materials	69.3	46.8
Telecommunication Services	0.0	19.1
Utilities	0.0	7.6
Total	**53.8**	**43.3**

Source: S&P Dow Jones Indices LLC. Data as of May 31, 2017. Table is provided for illustrative purposes.

Over the long term, Islamic indices tend to perform similarly to conventional benchmarks.

2. Performance Characteristics

Over the long term, Islamic indices tend to perform similarly to conventional benchmarks. For the 15-year period ended May 31, 2017, the S&P 500 Shariah posted an annualized total return of 8.7%, while the S&P 500 gained 7.8%. Over the same period, the Dow Jones Islamic Market World Index and Dow Jones Global Index gained 7.5% and 7.4%, respectively.

Exhibit 5: Comparative Performance Characteristics

RETURNS %	S&P 500 SHARIAH	S&P 500	DOW JONES ISLAMIC MARKET WORLD INDEX	DOW JONES GLOBAL INDEX
1-Year	16.6	17.5	16.7	17.9
3-Year	9.7	10.1	6.4	5.7
5-Year	14.7	15.4	11.5	11.9
10-Year	8.2	6.9	5.4	4.0
15-Year	8.7	7.8	7.5	7.4
RISK % (STD. DEV.)				
1-Year	6.4	6.2	7.2	5.8
3-Year	10.5	10.4	10.6	10.8
5-Year	9.8	9.6	9.9	10.1
10-Year	14.2	15.2	16.1	17.0
15-Year	13.6	14.2	15.0	15.6

Source: S&P Dow Jones Indices LLC. Data as of May 31, 2017. Past performance is no guarantee of future results. Table is provided for illustrative purposes and reflects hypothetical historical performance. Please see the Performance Disclosure at the end of this document for more information regarding the inherent limitations associated with back-tested performance.

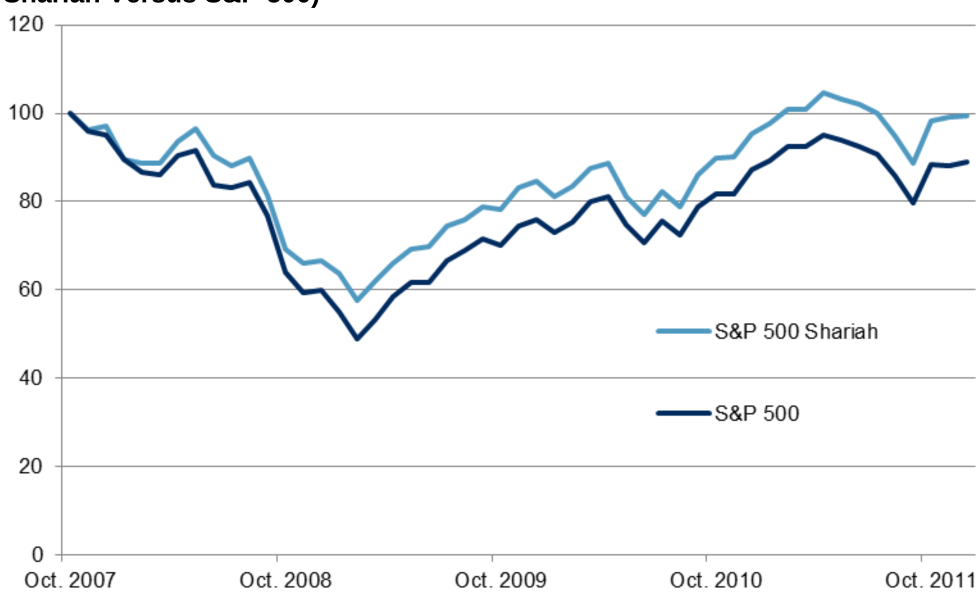
Differences in performance can occur in periods when there is significant underperformance or outperformance among sectors that have large allocation differences between Islamic and conventional benchmarks.

However, differences in performance can occur in periods when there is significant underperformance or outperformance among sectors that have large allocation differences between Islamic and conventional benchmarks. For example, as shown in Exhibit 6, the S&P 500 Shariah outperformed the S&P 500 in the period following the onset of the 2008 financial crisis, as financials significantly underperformed overall, and information technology and health care outperformed the broader market.

In fact, in the period between Oct. 31, 2007 (the monthly peak of the S&P 500), and Dec. 30, 2011, the S&P 500 financials sector declined nearly 58% on a total return basis, while the S&P 500 information technology sector declined merely 3% and health care made a gain of 5% over the same period. Despite the significant divergence in the performance of these key sectors, the overall outperformance of the S&P 500, while meaningful, was relatively modest over this period, as the annualized total returns of the S&P 500 Shariah and S&P 500 were -0.1% and -2.7%, respectively.

Notably, these themes can often reverse, as illustrated in 2016 when the financials sector of the S&P 500 returned nearly 23%, while the health care and information technology sectors returned -3% and 14%, respectively. Due in part to the relative outperformance of the financials sector, the S&P 500 Shariah underperformed the S&P 500 by approximately 3.5% in 2016.

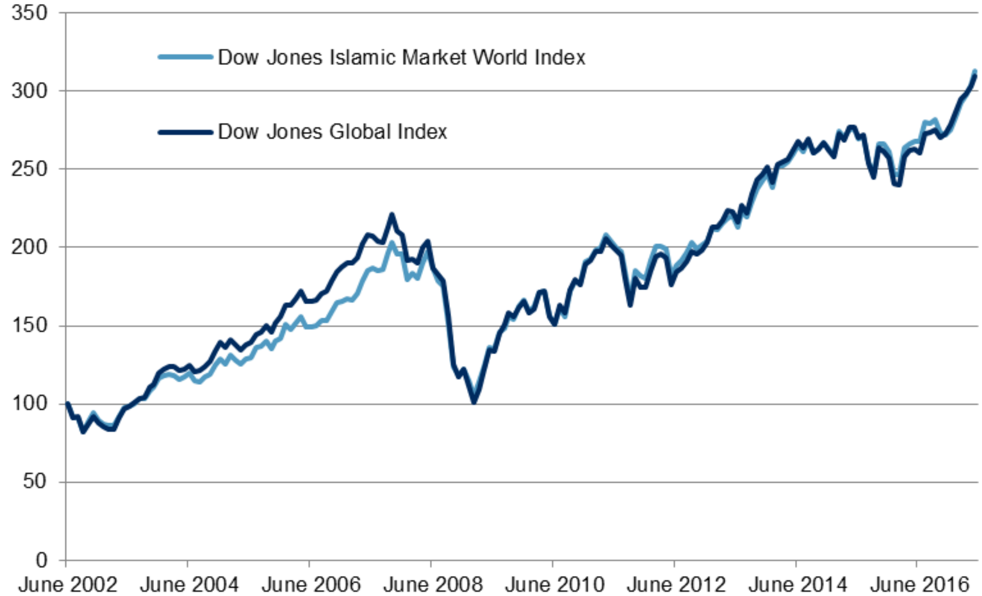
Exhibit 6: Comparative Performance Oct. 31, 2007-Dec. 30, 2011 (S&P 500 Shariah Versus S&P 500)



Source: S&P Dow Jones Indices LLC. Data from Oct. 31, 2011, to Dec. 30, 2011. Past performance is no guarantee of future results. Chart is provided for illustrative purposes and reflects hypothetical historical performance. Please see the Performance Disclosure at the end of this document for more information regarding the inherent limitations associated with back-tested performance.

Similar trends also occurred in global equity markets over this period. The Dow Jones Islamic Market World Index slightly underperformed the Dow Jones Global Index in the boom leading up to the financial crisis, but it outperformed over the following years, as financials have generally lagged the broader market since the crisis.

Exhibit 7: Comparative 15-Year Performance (Dow Jones Islamic Market World Index Versus Dow Jones Global Index)



Source: S&P Dow Jones Indices LLC. Data as of May 31, 2017. Charts are provided for illustrative purposes only. Past performance is no guarantee of future results.

Islamic benchmarks experienced significantly lower volatility during the global financial crisis.

Also noteworthy is that Islamic benchmarks experienced significantly lower volatility during the global financial crisis because of their limited exposure to financials. This has resulted in meaningfully lower volatility over the trailing 10-year period.

3. High Correlations to Conventional Benchmarks

As illustrated in Exhibit 8, the S&P 500 Shariah and the Dow Jones Islamic Market World Index are highly correlated to their conventional counterparts. In fact, correlations have been close to 1.0 over the trailing three-, five-, and ten-year periods.

Exhibit 8: Comparative Collaborations

PERIOD	S&P 500 SHARIAH TO S&P 500	DOW JONES ISLAMIC MARKET WORLD INDEX TO DOW JONES GLOBAL INDEX
3-Year	0.99	0.98
5-Year	0.98	0.98
10-Year	0.98	0.99

Source: S&P Dow Jones Indices LLC. Data as of May 31, 2017. Past performance is not an indication of future results. Table is provided for illustrative purposes and may reflects hypothetical historical performance. Please see the Performance Disclosure at the end of this document for more information regarding the inherent limitations associated with back-tested performance.

WHAT ABOUT BONDS?

Because the charging or paying of interest is not permissible under Islamic law, conventional bonds are inherently not Shariah compliant. Consequently, standard fixed income benchmarks cannot be screened for Shariah compliance, and Islamic investors seeking fixed income exposure have limited options. In order to meet the demand for Shariah-compliant fixed income products, Islamic financial institutions have created an alternative structure, called sukuk, which complies with Shariah investment principles.

Unlike conventional bonds, which are a promise to repay a loan, sukuk constitutes partial ownership in a debt, asset, project, business, or investment. Most commonly issued sukuk structures replicate the cash flows of conventional bonds. They are structured to have a similar payoff and risk/return profile as conventional bonds, and they are made tradable through conventional organizations such as Euroclear or Clearstream.

Sukuk, by their nature, meet Shariah guidelines so there is no further screening necessary to make them eligible for inclusion in an index or portfolio. S&P Dow Jones Indices launched the first sukuk index, the Dow Jones Sukuk Index,[1] in 2006. It currently includes 73 issues, primarily entities headquartered in the Gulf Cooperation Council and Southeast Asia.

Sukuk have been developed as Shariah-compliant alternatives to conventional bonds.

Exhibit 9: Dow Jones Sukuk Index Country Weights

COUNTRY	INDEX WEIGHT (%)	NUMBER OF SECURITIES
Cayman Islands	0.7	1
China	1.4	1
Hong Kong	2.7	2
Indonesia	17.8	9
Kuwait	0.7	1
Malaysia	10.5	11
Qatar	7.0	5
Saudi Arabia	33.6	16
South Africa	0.7	1
Turkey	2.1	3
United Arab Emirates	21.6	21
UK	0.3	1
Total	**100.0**	**57**

Source: S&P Dow Jones Indices LLC. Data as of May 31, 2017. Table is provided for illustrative purposes. Past performance is no guarantee of future results.

[1] For more information on this index, please see: Dow Jones Sukuk Total Return Index (Ex-Reinvestment).

CONCLUSION

As Shariah-compliant investors seek to create a diversified portfolio, Islamic indices provide market participants with a comprehensive set of benchmarks. These benchmarks define the universe of securities that can be utilized in constructing a wide array of Shariah-compliant investment solutions. Although Islamic equity indices are necessarily limited in coverage, particularly in certain sectors such as financials, they have historically been highly correlated and have had similar risk/return characteristics to conventional indices. Because interest is prohibited under Shariah law, gaining Shariah-compliant fixed income exposure is particularly challenging. However, sukuk indices have been developed to meet the demand for Shariah-compliant fixed income solutions.

PERFORMANCE DISCLOSURE

The S&P 500 Shariah was launched on Dec. 19, 2006. All information presented prior to an index's Launch Date is hypothetical (back-tested), not actual performance. The back-test calculations are based on the same methodology that was in effect on the index Launch Date. Complete index methodology details are available at www.spdji.com.

S&P Dow Jones Indices defines various dates to assist our clients in providing transparency. The First Value Date is the first day for which there is a calculated value (either live or back-tested) for a given index. The Base Date is the date at which the Index is set at a fixed value for calculation purposes. The Launch Date designates the date upon which the values of an index are first considered live: index values provided for any date or time period prior to the index's Launch Date are considered back-tested. S&P Dow Jones Indices defines the Launch Date as the date by which the values of an index are known to have been released to the public, for example via the company's public website or its datafeed to external parties. For Dow Jones-branded indices introduced prior to May 31, 2013, the Launch Date (which prior to May 31, 2013, was termed "Date of introduction") is set at a date upon which no further changes were permitted to be made to the index methodology, but that may have been prior to the Index's public release date.

Past performance of the Index is not an indication of future results. Prospective application of the methodology used to construct the Index may not result in performance commensurate with the back-test returns shown. The back-test period does not necessarily correspond to the entire available history of the Index. Please refer to the methodology paper for the Index, available at www.spdji.com for more details about the index, including the manner in which it is rebalanced, the timing of such rebalancing, criteria for additions and deletions, as well as all index calculations.

Another limitation of using back-tested information is that the back-tested calculation is generally prepared with the benefit of hindsight. Back-tested information reflects the application of the index methodology and selection of index constituents in hindsight. No hypothetical record can completely account for the impact of financial risk in actual trading. For example, there are numerous factors related to the equities, fixed income, or commodities markets in general which cannot be, and have not been accounted for in the preparation of the index information set forth, all of which can affect actual performance.

The Index returns shown do not represent the results of actual trading of investable assets/securities. S&P Dow Jones Indices LLC maintains the Index and calculates the Index levels and performance shown or discussed, but does not manage actual assets. Index returns do not reflect payment of any sales charges or fees an investor may pay to purchase the securities underlying the Index or investment funds that are intended to track the performance of the Index. The imposition of these fees and charges would cause actual and back-tested performance of the securities/fund to be lower than the Index performance shown. As a simple example, if an index returned 10% on a US $100,000 investment for a 12-month period (or US $10,000) and an actual asset-based fee of 1.5% was imposed at the end of the period on the investment plus accrued interest (or US $1,650), the net return would be 8.35% (or US $8,350) for the year. Over a three year period, an annual 1.5% fee taken at year end with an assumed 10% return per year would result in a cumulative gross return of 33.10%, a total fee of US $5,375, and a cumulative net return of 27.2% (or US $27,200).

GENERAL DISCLAIMER

It is not possible to invest directly in an index. Exposure to an asset class represented by an index is available through investable instruments based on that index. S&P Dow Jones Indices does not sponsor, endorse, sell, promote or manage any investment fund or other investment vehicle that is offered by third parties and that seeks to provide an investment return based on the performance of any index. S&P Dow Jones Indices makes no assurance that investment products based on the index will accurately track index performance or provide positive investment returns. S&P Dow Jones Indices LLC is not an investment advisor, and S&P Dow Jones Indices makes no representation regarding the advisability of investing in any such investment fund or other investment vehicle. A decision to invest in any such investment fund or other investment vehicle should not be made in reliance on any of the statements set forth in this document. Prospective investors are advised to make an investment in any such fund or other vehicle only after carefully considering the risks associated with investing in such funds, as detailed in an offering memorandum or similar document that is prepared by or on behalf of the issuer of the investment fund or other vehicle. Inclusion of a security within an index is not a recommendation by S&P Dow Jones Indices to buy, sell, or hold such security, nor is it considered to be investment advice.

These materials have been prepared solely for informational purposes based upon information generally available to the public and from sources believed to be reliable. No content contained in these materials (including index data, ratings, credit-related analyses and data, research, valuations, model, software or other application or output therefrom) or any part thereof (Content) may be modified, reverse-engineered, reproduced or distributed in any form or by any means, or stored in a database or retrieval system, without the prior written permission of S&P Dow Jones Indices. The Content shall not be used for any unlawful or unauthorized purposes. S&P Dow Jones Indices and its third-party data providers and licensors (collectively "S&P Dow Jones Indices Parties") do not guarantee the accuracy, completeness, timeliness or availability of the Content. S&P Dow Jones Indices Parties are not responsible for any errors or omissions, regardless of the cause, for the results obtained from the use of the Content. THE CONTENT IS PROVIDED ON AN "AS IS" BASIS. S&P DOW JONES INDICES PARTIES DISCLAIM ANY AND ALL EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, ANY WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR USE, FREEDOM FROM BUGS, SOFTWARE ERRORS OR DEFECTS, THAT THE CONTENT'S FUNCTIONING WILL BE UNINTERRUPTED OR THAT THE CONTENT WILL OPERATE WITH ANY SOFTWARE OR HARDWARE CONFIGURATION. In no event shall S&P Dow Jones Indices Parties be liable to any party for any direct, indirect, incidental, exemplary, compensatory, punitive, special or consequential damages, costs, expenses, legal fees, or losses (including, without limitation, lost income or lost profits and opportunity costs) in connection with any use of the Content even if advised of the possibility of such damages.

S&P Dow Jones Indices keeps certain activities of its business units separate from each other in order to preserve the independence and objectivity of their respective activities. As a result, certain business units of S&P Dow Jones Indices may have information that is not available to other business units. S&P Dow Jones Indices has established policies and procedures to maintain the confidentiality of certain non-public information received in connection with each analytical process.

In addition, S&P Dow Jones Indices provides a wide range of services to, or relating to, many organizations, including issuers of securities, investment advisers, broker-dealers, investment banks, other financial institutions and financial intermediaries, and accordingly may receive fees or other economic benefits from those organizations, including organizations whose securities or services they may recommend, rate, include in model portfolios, evaluate or otherwise address.